Replace the paragraph beginning on page 42 line 6 with the paragraph as follows:

Throat 270 can have a number of aperture shapes, including an axisymmetric, rectangular (2-D), elliptical, diamond, triangular shapes, and other low observable RADAR and IR configurations. FIGURE 11 depicts a rectangular throat aperture which supports two opposing injectors 276 and 277 formed as slots that encompasses the full periphery of the top and bottom of the rectangular-shaped throat 270. Each injector 276 and 277 can provide a uniform flow along the entire slot from a single duct, or can include a number of smaller injection components within each slot which can cooperate to provide a uniform flow or a flow that varies along the slot. Injectors 276 and 277 are placed within throat 270 proximate to exhaust chamber 262, such as one nozzle throat radius from the nozzle's centroid 300.

Replace the paragraph beginning on page 43 line 16 with the paragraph as follows:

Referring now to FIGURE 12, lines 304 represent the mass flow characteristics of flow 214, passing through nozzle 268. As flow 214 passes through throat 270, the energy of flow 214 is translated from a high pressure and low velocity into a low pressure and high velocity. Injectors 276 and 308 provide a flow that partially blocks throat 270 and thus skews sonic plane 302 of flow 214. When a plurality of injectors provide a symmetrical secondary flow around the periphery of throat 270, the effective cross sectional area of throat 270 is decreased, causing an increase in pressure within exhaust chamber 262 and an increase in the velocity of flow 214 as it accelerates through throat 270. The pressure within afterburner duct can be controlled by controlling the amount of blockage provided by the secondary flow from injectors 276.

IN THE CLAIMS

Please cancel Claims 1-30 and add the following claims.

31. (NEW) A nozzle for vectoring a primary flow of a fluid flowing through an enclosed volume, the nozzle being a 3D nozzle and having an inside surface, the nozzle comprising:

a plurality of injectors with port openings arranged along the inside surface of the 3D nozzle, each of the plurality of injectors adapted to expel an injection fluid in a direction within the enclosed volume, the direction inclined to oppose the primary flow of the fluid and approximately parallel to an intended vectoring plane.

32. (NEW) The nozzle of Claim 31, the nozzle further comprising:

a throat, the throat comprising a region within the nozzle of lowest cross-sectional area, the throat being situated in a path of the primary flow of the fluid.

33. (NEW) The nozzle of Claim 32 wherein the plurality of injectors is located proximate to the throat.

34. (NEW) The nozzle of Claim 33, the nozzle further comprising:

a second plurality of injectors located downstream of the throat and arranged along the inside surface of the 3D nozzle, each of the second plurality of injectors adapted to expel the injection fluid in a second direction within the enclosed volume, the second direction inclined to oppose the primary flow of the fluid and approximately parallel to the intended vectoring plane.

35. (NEW) The nozzle of Claim 34 wherein the plurality of injectors and the second plurality of injectors expel the injection fluid asymmetrically, resulting in a change in a thrust vector associated with the primary flow of the fluid, the change in the thrust vector lying within the intended vectoring plane.

36. (NEW) The nozzle of Claim 35 wherein the plurality of injectors and the second

plurality of injectors expel the injection fluid in pulses.

37. (NEW) The nozzle of Claim 33, the nozzle further comprising:

a second plurality of injectors located proximate to the throat, the second plurality of injectors having port openings arranged along the inside surface opposite of the plurality of injectors, each of the second plurality of injectors adapted to expel the injection fluid in a second direction within the enclosed volume, the second direction inclined to oppose the primary flow of the fluid and approximately parallel to the intended vectoring plane.

38. (NEW) The nozzle of Claim 37 wherein the plurality of injectors and the second plurality of injectors expel the injection fluid symmetrically, resulting in a change in a discharge coefficient in the nozzle.

39. (NEW) The nozzle of Claim 38 wherein the plurality of injectors and the second plurality of injectors expel the injection fluid in pulses.

40. (NEW) The nozzle of Claim 31 wherein the injection fluid is a compressed gas.

41. (NEW) The nozzle of Claim 31 wherein the injection fluid is fuel.

42. (NEW) The nozzle of Claim 31, the nozzle further comprising:

at least one controller, the at least one controller operable to direct at least one of the plurality of injectors to expel the injection fluid.

43. (NEW) The nozzle of Claim 31, the nozzle further comprising:

at least one controller, the at least one controller operable to direct at least one of the plurality of injectors to expel of the injection fluid in pulses.

44. (NEW) A method for vectoring a primary flow of fluid in a 3D nozzle, the 3D nozzle having a throat, the throat comprising a region within the 3D nozzle of lowest cross-sectional area, the throat being situated in a path of the primary flow of fluid, the method comprising:

expelling from a plurality of injectors an injection fluid in a direction inclined to oppose the primary flow of the fluid and approximately parallel to an intended vectoring plane, the plurality of injectors located proximate to the throat.

45. (NEW) The method of Claim 44, the method further comprising:

expelling from a second plurality of injectors an injection fluid in a direction inclined to oppose the primary flow of the fluid and approximately parallel to an intended vectoring plane, the second plurality of injectors located downstream of the throat.

46. (NEW) The method of Claim 44, the method further comprising:

expelling from a second plurality of injectors the injection fluid in a direction inclined to oppose the primary flow of the fluid and approximately parallel to an intended vectoring plane, the second plurality of injectors located approximate to the throat.

47. (NEW) The method of Claim 44 wherein the step of expelling comprises expelling in pulses.

48. (NEW) The method of Claim 44 wherein the injection fluid is a compressed gas.

49. (NEW) The method of Claim 44 wherein the injection fluid is a fuel.

50. (NEW) The method of Claim 44 wherein the injection fluid

51. (NEW) A nozzle for vectoring a primary flow of fluid, the primary flow of fluid flowing through an enclosed volume, the nozzle having an inside surface and a throat, the throat comprising a region within the nozzle of lowest cross-sectional area, the throat being situated in a path of the primary flow of fluid, the nozzle comprising:

a plurality of injectors with port openings arranged along the inside surface of the nozzle, the plurality of injectors arranged such that the plurality of injectors are not aligned parallel to the path of the primary flow of fluid, each of the plurality of injectors adapted to expel an injection fluid in a direction within the enclosed volume, the direction inclined to oppose the primary flow of fluid and approximately parallel to an intended vectoring plane.

52. (NEW) The nozzle of Claim 51 wherein the plurality of injectors is located proximate to the throat.

53. (NEW) The nozzle of Claim 52, the nozzle further comprising:

a second plurality of injectors located downstream of the throat and arranged along the inside surface of the nozzle, the second plurality of injectors arranged such that the second plurality of injectors are not aligned parallel to the path of the primary flow of fluid, each of the second plurality of injectors adapted to expel the injection fluid in a second direction within the enclosed volume, the second direction inclined to oppose the primary flow of the fluid and approximately parallel to the intended vectoring plane.

54. (NEW) The nozzle of Claim 53 wherein the plurality of injectors and the second

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plurality of injectors expel the injection fluid asymmetrically, resulting in a change in a thrust vector associated with the primary flow of the fluid, the change in the thrust vector lying within the intended vectoring plane.

55. (NEW) The nozzle of Claim 54 wherein the plurality of injectors and the second plurality of injectors expel the injection fluid in pulses.

56. (NEW) The nozzle of Claim 52, the nozzle further comprising:

a second plurality of injectors located proximate to the throat, the second plurality of injectors having port openings arranged along the inside surface opposite of the plurality of injectors, the second plurality of injectors arranged such that the second plurality of injectors are not aligned parallel to the path of the primary flow of fluid, each of the second plurality of injectors adapted to expel the injection fluid in a second direction within the enclosed volume, the second direction inclined to oppose the primary flow of the fluid and approximately parallel to the intended vectoring plane.

57. (NEW) The nozzle of Claim 56 wherein the plurality of injectors and the second plurality of injectors expel the injection fluid symmetrically, resulting in a change in a discharge coefficient in the nozzle.

58. (NEW) The nozzle of Claim 57 wherein the plurality of injectors and the second plurality of injectors expel the injection fluid in pulses.

59. (NEW) The nozzle of Claim 51 wherein the injection fluid is a compressed gas.

60. (NEW) The nozzle of Claim 51 wherein the injection fluid is fuel.

61. (NEW) The nozzle of Claim 51, the nozzle further comprising:

at least one controller, the at least one controller operable to direct at least one of the plurality of injectors to expel the injection fluid.

62. (NEW) The nozzle of Claim 51, the nozzle further comprising:

at least one controller, the at least one controller operable to direct at least one of the plurality of injectors to expel of the injection fluid in pulses.

63. (NEW) A method for vectoring a primary flow of fluid in a nozzle, the nozzle having a throat, the throat comprising a region within the nozzle of lowest cross-sectional area, the throat being situated in a path of the primary flow of fluid, the method comprising:

expelling from a plurality of injectors an injection fluid in a direction inclined to oppose the primary flow of the fluid and approximately parallel to an intended vectoring plane, the plurality of injectors located proximate to the throat and arranged such that the plurality of injectors are not aligned parallel to the path of the primary flow of fluid.

64. (NEW) The method of Claim 63, the method further comprising:

expelling from a second plurality of injectors an injection fluid in a direction inclined to oppose the primary flow of the fluid and approximately parallel to an intended vectoring plane, the second plurality of injectors located downstream of the throat and arranged such that the second plurality of injectors are not aligned parallel to the path of the primary flow of fluid.

65. (NEW) The method of Claim 63, the method further comprising:

expelling from a second plurality of injectors an injection fluid in a direction inclined to oppose the primary flow of the fluid and approximately parallel to an intended vectoring plane, the second plurality of injectors located approximate to the throat and arranged such that the second plurality of injectors are not aligned parallel to the path of the primary flow of fluid.

66. (NEW) The method of Claim 63 wherein the step of expelling comprises expelling in pulses.

67. (NEW) The method of Claim 63 wherein the injection fluid is a compressed gas.

68. (NEW) The method of Claim 63 wherein the injection fluid is a fuel.

69. (NEW) The method of Claim 63 wherein the injection fluid

70. (NEW) A method for designing a nozzle, the method comprising:

analyzing a baseline configuration of the nozzle;

establishing a design study matrix of experimental configurations, the design study matrix comprising the experimental configurations, each of the experimental configurations being different by at least one value of one or more matrix variables;

conducting computational fluid dynamic analysis on the experimental configurations;

identifying effects of the matrix variables on behavior of the experimental configurations;